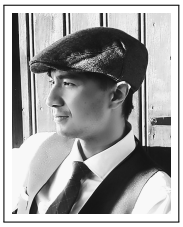
NGUYEN Quang-Duy



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Education

2017 – 2020 **PhD in Computer Science**
École Doctorale des Sciences Pour l'Ingénieur, University Clermont-Auvergne, France
UR TSCF, MathNUM departement, INRAE (Irstea), Clermont-Ferrand, France
PhD defense : 16/07/2020

2014 – 2015 **Master 2 in Computer Networking**
University Claude Bernard Lyon I, France
Note : 15.31/20.00 - Rank : ***1/60***

2013 – 2014 **Master 1 in Computer Science**
Institut de la Francophonie pour l'Informatique (IFI), Hanoi, Vietnam
Note : 14.20/20.00

2007 – 2012 **Engineer of Information Technology in Computer Engineering**
Hanoi University of Science and Technology, Vietnam
Note : 14.96/20.00

Experience

12/2021 – present **Postdoctoral Research Engineer**
LSEA laboratory, DILS department, CEA List, Palaiseau, France
Project : (1) LocalSEA ; (2) Papyrus4Manufacturing ; (3) CoGeFlux
Keywords : I4.0, OPC UA, TurtleBot3, Niryo Ned, ROS, AAS, Basyx, Papyrus

10/2020 – 09/2021 **Postdoctoral Researcher**
LTCI laboratory, INFRES department, Télécom Paris, Palaiseau
Project : OPC UA PubSub for Caméléon
Keywords : IIoT, SNCF, OPC UA PubSub, Embedded System, Zephyr OS, Node-RED, C

01/2017 – 07/2020 **PhD Student**
UR TSCF, MathNUM departement, INRAE
Project : (1) ConnecSens ; (2) AgroTechnoPôle
Keywords : Agriculture, IoT, Ontology, Reasoning, OWL, SWRL, Java, Python

08/2016 – 10/2016 **Research Engineer**
Programmation, Networks and Systems team, LaBRI laboratory, Bordeaux, France
Project : Le Palais de la Mémoire
Keywords : Sounds, Method of Loci, Distributed Algorithms, Beacons, BLE, Android

04/2015 – 07/2016 **Master 2 Intern / Research Engineer**
Networks team, ICube laboratory, Strasbourg, France
Project : FIT/IoT-lab
Keywords : Multihoming, Mobility, Contiki, TelosB, Python, C/C++

01/2014 – 07/2014 **Master 1 Intern**
Institut de la Francophonie pour l'Informatique
Project : Modeling and Diffusion of Mobile Users Profile
Keywords : Participative Detection, Modeling, Android, GAMA Platform, GAML

Publications*

Summary
First-authored items : 11/14
Citations : 45
H-index : 4
I-index : 3
Items by domains of interest : **I4.0** (5), **IoT** (7), **OPC UA** (6), **Ontology** (5), **AAS**
Source: Google Scholar

[CI.7] **Quang-Duy Nguyen**, Saadia Dhouib, Yining Huang, and Patrick Bellot, *"An Approach to Bride ROS 1 and ROS 2 Devices into an OPC UA-based Testbed for Industry 4.0"*, Proceedings of the 1st IEEE Industrial Electronics Society Annual (ONCON), Virtual, 12/2022

[W.2] **Quang-Duy Nguyen**, Saadia Dhouib, and Patrick Bellot, *"A Unified Method to Design Bridges for OPC UA PubSub Networks in the Industrial IoT"*, Proceedings of the 27th IEEE International Workshop on Computer Aided Modeling and Design of Communication Links and Networks (CAMAD), Paris, France, 11/2022

[CI.6] **Quang-Duy Nguyen**, Saadia Dhouib, Kunal Suri, and Fadwa Tmar, *"From Requirement Specification to OPC UA Information Model Design : A Product Assembly Line Monitoring Case Study"*, Proceedings of the 20th IEEE International Conference on Industrial Informatics (INDIN), Perth, Australia, 07/2022

[CI.5] **Quang-Duy Nguyen**, Patrick Bellot, and Pierre-Yves Petton, *"An OPC UA PubSub Implementation Approach for Memory-Constrained Sensor Devices"*, Proceedings of the 31st IEEE International Symposium on Industrial Electronics (ISIE), Anchorage, United States, 06/2022

[CI.4] **Quang-Duy Nguyen**, Fadwa Tmar, Yining Huang, and Saadia Dhouib, *"Early Lessons Learned from the Development of a Local OPC UA-based Robotic Testbed for Research"*, Proceedings of the 31st IEEE International Symposium on Industrial Electronics (ISIE), Anchorage, United States, 06/2022

[CI.3] **Quang-Duy Nguyen**, Saadia Dhouib, Jean-Pierre Chanet, and Patrick Bellot, *"Towards a Web-of-Things Approach for OPC UA Field Device Discovery in the Industrial IoT"*, Proceedings of the 18th IEEE International Conference on Factory Communication Systems (WFCS), Pavia, Italy, 04/2022

[CI.2] **Quang-Duy Nguyen**, Catherine Roussey, Patrick Bellot, and Jean-Pierre Chanet, *"Stack of Services for Context-Aware Systems : An Internet-Of-Things System Design Approach"*, Proceedings of the 15th IEEE International Conference on Computing and Communication Technologies (RIVF), Hanoi, Vietnam, 08/2021

[JI.2] Julian Eduardo Plazas, Sandro Bimonte, Christophe de Vaulx, Michel Schneider, **Quang-Duy Nguyen**, Jean-Pierre Chanet, Hongling Shi, Kun Mean Hou, and Juan Carlos Corrales, *"A Conceptual Data Model and its Automatic Implementation for IoT-Based BI Applications : UML Profile and MDA Approach"*, IEEE Internet of Things Journal, 10/2020

[T.1] **Quang-Duy Nguyen**, *"Interoperability and Upgradability Improvement for Context-Aware Systems in Agriculture 4.0"*, PhD thesis, University Clermont-Auvergne, France, 07/2020

[CF.2] **Quang-Duy Nguyen**, Catherine Roussey, Maria Poveda-Villalón, Christophe de Vaulx, Jean-Pierre Chanet, and Camille Noûs, *"CASO et IRRIG deux ontologies pour le développement de systèmes contextuels : cas d'usage sur l'automatisation de l'irrigation"*, Actes des 31es journées francophones d'Ingénierie des Connaissances (IC), Angers, France, 07/2020

[JI.1] **Quang-Duy Nguyen**, Catherine Roussey, Maria Poveda-Villalón, Christophe de Vaulx, and Jean-Pierre Chanet, *"Development Experience of a Context-Aware System for Smart Irrigation using CASO and IRRIG ontologies"*, Special Issue "Semantic Technologies Applied to Agriculture", MDPI Applied Sciences, 03/2020

[W.1] Maria Poveda-Villalón, **Quang-Duy Nguyen**, Catherine Roussey, Christophe de Vaulx, and Jean-Pierre Chanet, *"Ontological Requirement Specification for Smart Irrigation Systems : A SOSA/SSN and SAREF Comparison"*, Proceedings of the 9th International Semantic Sensor Networks Workshop (SSN), 17th International Semantic Web Conference (ISWC), Monterey, United States, 10/2018

[CF.1] Maria Poveda-Villalón, **Quang-Duy Nguyen**, Catherine Roussey, Christophe de Vaulx, and Jean-Pierre Chanet, *"Besoins ontologiques d'un système d'irrigation intelligent : Comparaison entre SSN et SAREF"*, Actes des 29es journées francophones d'Ingénierie des Connaissances (IC), Nancy, France, 07/2020

[CI.1] **Quang-Duy Nguyen**, Julien Montavont, Nicolas Montavont, and Thomas Noël, *"RPL Border Router Redundancy in the Internet of Things"*, Proceedings of the 15th International Conference on Ad-Hoc Networks and Wireless (ADHOC-NOW), Lille, France, 07/2016

* T : Thesis ; JI : International Journal ; CI : International Conference ; CF : Francophone Conference ; W : Workshop

Research Skills

Project Management	
System Implementation	
Scientific Writing	
Presentation	

Linguistic

French	
English	
Vietnamese	

Technical Skills

Methodology	Mini-Waterfall, LOT, Agile
Operating System	Linux, Zephyr, Contiki, Android
Network Protocol	TCP/IP, PubSub, MQTT, REST
Vocabulary	SOSA/SSN, CASO, IRRIG
Standard	OPC UA, ISA-95, Sparkplug B, AAS
Tool	Papyrus, Protégé, GIT, Wireshark

Programming

C/C++	
Java	
Python	
Shell script	
Node-Red/JS	
Query language	

References

- **Dr. Saadia DHOUIB**, Senior researcher and project manager in LSEA, DILS department, CEA List
Direct supervisor in multiple projects in LSEA
✉ saadia.dhouib@cea.fr

- **Prof. Patrick BELLOT**, Director of the CCN team of LTCI, INFRES department, Télécom Paris
Direct supervisor in the project "OPC UA PubSub for Caméléon"
✉ patrick.bellot@telecom-paris.fr

- **Dr. Jean-Pierre CHANET**, Director of UR TSCF, MathNUM department, INRAE
Director of the thesis "Interoperability and Upgradability Improvement for Context-Aware Systems in Agriculture 4.0"
✉ jean-pierre.chanet@inrae.fr